東海大学大学院博士論文

Clarification of Anatomical Structure and Functions in Human Nasal Cavity by Airflow Patterns

(流れパターンによるヒトの鼻腔の解剖学的構造と機能の解明)

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Contents

Nomenclatures

ρ	density (kg/m^3)
$\vec{v}$	velocity vector (m/s)
p	static pressure (Pa)
μ	viscosity coefficient (Pa·s)
H	enthalpy (joule)
T	temperature (kelvin)
k	thermal conductivity ($W/m \cdot K$)
S_h	viscous dissipation (Pa·s)
C_p	specific heat of the moist air ($J/(kg \cdot K)$
H_i	enthalpy (joule)
Y_1	mass fraction
$C_{p,i}$	specific heat of the i-th species ($J/(kg \cdot K)$
S_1	production rate at the nasal wall,
$\vec{J}_1$	diffusion flux vector $(mol/(m^2 \cdot s))$
$D_{m,1}$	material diffusion coefficients of the water vapor (m^2/s)
$D_{T,1}$	heat diffusion coefficients of the water vapor (m^2/s)
v	velocity (m/s)
RH	relative humidity (%)

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